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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,410	08/20/2003	Jay M. Short	1460-32	7934

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DIVERSA CORPORATION  
4955 DIRECTORS PLACE  
SAN DIEGO, CA 92121

EXAMINER
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STEELE, AMBER D

ART UNIT	PAPER NUMBER
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1639

DATE MAILED: 11/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/644,410

Applicant(s)

SHORT, JAY M.

Examiner

Amber D. Steele

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 2-40 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Status of the Claims***

1. Claim 1 was cancelled by the applicant in the amendment received August 20, 2003.

Claims 2-40 are currently pending.

### ***Election/Restrictions***

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 2-5, 10-11, 23-26, 34-40 are drawn to a method of making recombined nucleic acids, classified in class 435, subclass DIG 47.
  - II. Claims 6-9 are drawn to a method of performing trinucleotide synthesis, classified in class 435, subclass 91.1.
  - III. Claims 12-22 are drawn to a method of performing split-pool synthesis, classified in class 435, subclass 91.2.
  - IV. Claims 27-30 and 32-33 are drawn to a method of making a rehybridized recombined nucleic acid, classified in class 435, subclass DIG 46.
  - V. Claim 31 is drawn to a method of identifying nucleic acids, classified in class 435, subclass 6.
3. The inventions are distinct, each from the other because of the following reasons:

Groups I-V represent separate and patentably distinct inventions. Groups I-V are drawn to different methods that are directed to different purposes, recite different method steps, and/or use different materials.

  - A. Group I is a separate and patentably distinct invention from Groups II-V because Group I is directed to a different purpose compared to Groups II-V and *vice*

*versa*. Group I is drawn to a method of making recombined nucleic acids while Group II is drawn to a method of performing trinucleotide synthesis, Group III is drawn to a method of performing split-pool synthesis, Group IV is drawn to a method of making a rehybridized recombined nucleic acid, and Group V is drawn to a method to identify nucleic acids. Therefore, Group I is drawn to a method with a different purpose (e.g. method of making recombined nucleic acids) from Groups II-V. Furthermore, Group I recites the method step of “selecting” “homologous” first and second nucleic acids which is not required by Groups II-V.

B. Group II is a separate and patentable distinct invention from Groups I and III-V because Group II is directed to a different purpose compared to Groups I and III-V. Group II is drawn to a method of performing trinucleotide synthesis while Group I is drawn to a method of making recombined nucleic acids, Group III is drawn to a method of performing split-pool synthesis, Group IV is drawn to a method of making a rehybridized recombined nucleic acid, and Group V is drawn to a method to identify nucleic acids. Therefore, Group II is drawn to a method with a different purpose (e.g. synthesizing trinucleotides) from Groups I and III-V.

C. Group III is a separate and patentably distinct invention from Group I-II and IV-V because Group III is directed to a different purpose compared to Groups I-II and IV-V. Group III is drawn to a method of performing split-pool synthesis while Group I is drawn to a method of making recombined nucleic acids, Group II is drawn to a method of performing trinucleotide synthesis, Group IV is drawn to a method of making a rehybridized recombined nucleic acid, and Group V is drawn to a method to identify

nucleic acids. Therefore, Group III is drawn to a method with a different purpose (e.g. performing split-pool synthesis) from Groups I-II and IV-V. Furthermore, Group III recites the method step of “splitting the extended intermediate oligonucleotide sequences into two or more separate pools” which is not required by Groups I-II or IV-V.

D. Group IV is a separate and patentably distinct invention from Group I-III and V because Group IV is directed to a different purpose compared to Groups I-III and V. Group IV is drawn to a method of making a rehybridized recombined nucleic acids while Group I is drawn to a method of making recombined nucleic acids, Group II is drawn to a method of performing trinucleotide synthesis, Group III is drawn to a method of performing split-pool synthesis, and Group V is drawn to a method to identify nucleic acids. Therefore, Group III is drawn to a method with a different purpose (e.g. making rehybridized recombined nucleic acids) from Groups I-II and IV-V. Furthermore, Group IV recites the method steps of “denaturing” and “re-hybridizing at least one member of the set of denatured recombined nucleic acids” which is not required by Groups I-III and V.

E. Group V is a separate and patentably distinct invention from Group I-IV because Group V is directed to a different purpose compared to Groups I-IV. Group V is drawn to a method to identify nucleic acids while Group I is drawn to a method of making recombined nucleic acids, Group II is drawn to a method of performing trinucleotide synthesis, Group III is drawn to a method of performing split-pool synthesis, and Group IV is drawn to a method of making a rehybridized recombined nucleic acid. Therefore, Group III is drawn to a method with a different purpose (e.g. identifying

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nucleic acids) from Groups I-IV. Furthermore, Group V recites the method step of “sequencing the first round selected nucleic acids” which is not required by Groups I-IV. Moreover, Group V requires materials to perform sequencing while Groups I-IV do not.

Therefore, Groups I-V have different issues regarding patentability and enablement. Additionally, Groups I-V represent patentably distinct subject matter which merits separate and burdensome searches. Art anticipating or rendering obvious Group I would not necessarily anticipate or render obvious any of Groups II-V or *vice versa*, because they are drawn to different inventions that have different distinguishing features. Furthermore, Groups I-V have a separate status in the art as shown by the different classification (e.g. subclass; please refer to section 2 above).

4. Because these inventions are distinct for the reasons given above and:
  - a. have acquired a separate status in the art as shown by their different classification (please refer to paragraph 1), and/or
  - b. divergent subject matter which would require different bibliographic and/or classification searches; and/or
  - c. because the inventions have acquired a separate status in the art because of the recognized divergent subject matter, restriction for examination purposes as indicated is proper.

#### ***Species Election***

5. This application contains claims directed to the following patentably distinct species of the claimed inventions for Groups I-V. Election is required as follows.

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6. If applicant elects the inventions of **Group I**, the applicant is required to **elect a single, specific species from each of the following species a-f.**

a. species of first and second nucleic acid homology (e.g. claims 4-5)

Applicant must elect, for the purposes of search, a **single, specific species** of first and second nucleic acid homology.

b. species of providing step (e.g. claims 10-11)

Applicant must elect, for the purposes of search, a **single, specific species** of providing step.

c. species of hybridization step (e.g. claims 23-24)

Applicant must elect, for the purposes of search, a **single, specific species** of hybridization step.

d. species of polymerase (e.g. claims 25-26)

Applicant must elect, for the purposes of search, a **single, specific species** of polymerase.

e. species of number of oligonucleotide member types (e.g. claims 36-38)

Applicant must elect, for the purposes of search, a **single, specific species** of number of oligonucleotide member types.

f. species of amount of oligonucleotide member types (e.g. claims 39-40)

Applicant must elect, for the purposes of search, a **single, specific species** of amount of oligonucleotide member types.

It would necessarily be unduly burdensome to search each of the above species of the presently claimed methods since it would entail different and separately burdensome manual/computer bibliographic searches in the patent and nonpatent literature databases and/or

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additionally a reference against one species may not necessarily anticipate or render obvious the other and/or the different species may elicit different issues under 35 U.S.C. 112/1.

7. If applicant elects the inventions of **Group II**, the applicant is required to **elect a single, specific species from each of the following species.**

- a. species of synthesizer (e.g. automatic or nonautomatic; claims 6-7)

Applicant must elect, for the purposes of search, a **single, specific species** of synthesizer.

It would necessarily be unduly burdensome to search each of the above species of the presently claimed methods since it would entail different and separately burdensome manual/computer bibliographic searches in the patent and nonpatent literature databases and/or additionally a reference against one species may not necessarily anticipate or render obvious the other and/or the different species may elicit different issues under 35 U.S.C. 112/1.

8. If applicant elects the inventions of **Group III**, the applicant is required to **elect a single, specific species from each of the following species a-b.**

- a. species of synthesizer (e.g. automatic or nonautomatic; claims 12 and 16)

Applicant must elect, for the purposes of search, a **single, specific species** of synthesizer.

- b. species of substrate sequence (e.g. free or attached)

Applicant must elect, for the purposes of search, a **single, specific species** of substrate sequence.

It would necessarily be unduly burdensome to search each of the above species of the presently claimed methods since it would entail different and separately burdensome manual/computer bibliographic searches in the patent and nonpatent literature databases and/or



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additionally a reference against one species may not necessarily anticipate or render obvious the other and/or the different species may elicit different issues under 35 U.S.C. 112/1.

9. Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, **including any claims subsequently added**. An argument that a claim is allowable or that all claims are generic is considered **nonresponsive** unless accompanied by an election.

10. Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

11. Should applicant traverse on the grounds that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

12. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement may be traversed (37 CFR 1.143). Because the above restriction/election requirement is complex, a telephone call to applicant to request an oral election was not made. See MPEP § 812.01.

***Future Correspondences***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amber D. Steele whose telephone number is 571-272-5538. The examiner can normally be reached Monday through Friday from 9:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached at 571-272-0811. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ADS

November 8, 2005



Mark Shibuya Art Unit 1639